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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,978	03/19/2004	Daisuke Ohno	2004_0431A	6493

513 7590 04/20/2005

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EXAMINER

CHEN, VIVIAN

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,978

Applicant(s)

OHNO ET AL.

Examiner

Vivian Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9-2004</u> . | 6) <input type="checkbox"/> Other: ____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite because it is unclear what constitutes a "structure" or "structures" in regard to B, since the structure(s) of B are not defined.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) SYBERT ET AL (US 5,015,698); or

(b) EUROPEAN PATENT APPLICATION 1 253 164 A1 (hereinafter EP '164);

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in view of JAPANESE PATENT APPLICATION 2003-0127796 (hereinafter JP '796) or MAYSKA ET AL (US 5,021,543) or HEITZ ET AL (US 4,487,918).

SYBERT ET AL discloses a polyphenylene ether-polyester copolymer comprising a polyphenylene ether (PPE) oligomer having a number average molecular weight of 3,000 or more in combination with an polyalkylene dicarboxylate block as recited in application claims 1-3, wherein the resultant copolymers have a typical molecular weight of 50,000. (line 55, col. 1 to line 64, col. 3; column 5; line 12-29, col. 6; Table VIII).

EP '164 discloses a block copolymer comprising polyphenylene ether blocks and polyester blocks such as dicarboxylate blocks as recited in application claims 1-3. (paragraphs 0007-0011; claims 8-9)

JP '796 and MAYSKA ET AL and HEITZ ET AL each disclose the recited bifunctional phenylene ether oligomers as recited in claims 1-3, wherein the disclosed oligomers are useful in forming block copolymers with superior heat resistance. (JP '796, formula (1)-(3)) (HEITZ ET AL, formula I; lines 10-17, col. 3) (MAYSKA ET AL, formula I).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use known PPE oligomers as blocks in the polyester copolymers disclosed in SYBERT ET AL or EP '164 in order to obtain useful resins with good heat resistance and mechanical properties. One of ordinary skill in the art would have selected the molecular weight of the PPE oligomer and the resultant copolymer (claims 1, 4) depending on the specific mechanical and other physical properties required for specific applications.

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5. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

(a) SYBERT ET AL (US 5,015,698); or

(b) EUROPEAN PATENT APPLICATION 1 253 164 A1 (hereinafter EP '164);

in view of JAPANESE PATENT APPLICATION 2003-0127796 (hereinafter JP '796) or

MAYSKA ET AL (US 5,021,543) or HEITZ ET AL (US 4,487,918);

as applied to claims 1-5 above,

and further in view of BURNELL ET AL (US 6,165,309).

BURNELL ET AL discloses that it is well known in the art to use polyphenylene ether-based resins in multilayer structures comprising metal layer(s) laminate to PPE-based layer for use in electronic components. (line 65, col. 3 to line 54, col. 4)

It would have been obvious to use the polyesters disclosed in SYBERT ET AL or EP '164 in metal/film laminate structures in order to form heat resistant electronic components.

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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 17, 2005



Vivian Chen
Primary Examiner
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